

Appl. No. 10/033,328
Amdt. Dated 07-6-2005
Response to Notice dated 07-01-2005

Amendments to the Specification:

Please replace para. 0020 with the following amended paragraph:

[0020] FIG. 2 is a simplified expanded view of the switching fabric 140 of FIG. 1 of an embodiment of the present invention. In this embodiment the switching fabric 140 includes a first crossbar switch 150, a shared memory 152, and a second crossbar switch 154. The first crossbar switch 150 is connected to the shared memory 152, and the shared memory 152 is then connected to the second crossbar switch 154. For illustration purposes only, input port 1 112 includes a First-in-First-out (FIFO) input queue 120. The input queue 120 is partitioned into a plurality of words (two bytes) for example words 132-1, 134-1, and 136-1. In another embodiment the input queue 120 is partitioned into a plurality of bytes. A frame enters the input queue and is partitioned into words. These words are then routed via the first crossbar switch 150 to a memory slice in shared memory 152. An example memory slice length is 64 words. For example, words 132-1, 134-1, and 136-1 in input queue 120 are routed via first crossbar switch 150 to memory slice 162 of shared memory 152. The first word in memory slice 162 is word 132-2 which corresponds to word 132-1 of input queue 120. Similarly, words 134-1 and 136-1 correspond to words 134-2 and 136-2 of memory slice 162, respectively. A frame pointer 160 points to or references the memory slice 162 of shared memory 152. In one embodiment the frame pointer 160 is a start of frame (SOF) pointer that addresses the starting location of the first word (or byte) of the memory slice. For illustration purposes, the frame length is assumed to be less than or equal to a memory slice length. However, the present invention

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is not so limited, the frame may cover two or more memory slices. In the case of one or more memory slices per frame, a separate link list is kept which links each memory slice with its next memory slice. The frame pointer 160 points to the memory slice, e.g., 162, as well as to an entry in the linked list. The entry in the linked list is either a byte count, indicating this is the last memory slice, or a pointer to the next memory slice making up the frame. Further details can be found in co-pending U.S. Utility patent application Ser. No. 09/971,049, titled "Variable Length Switch Fabric," by having inventors Todd Khacherian et. al., filed Oct. 3, 2001 (~~Attorney Docket number 06979-0017~~), which is herein incorporated by reference in its entirety for all purposes.

Please replace para. 0025 with the following amended paragraph:

[0025] FIG. 5 is a simplified block diagram illustrating the multicasting routing process for an embodiment of the present invention. FIG. 5 shows a Unicast/Multicast table(s) 430 coupled to a memory cache 440 via bus 434. The memory cache 440 is in turn coupled to a plurality of output port control modules, e.g., output port 0 control module 480, output port 1 control module 482, to output port N-1 control module 486, via bus 470. In an alternative embodiments the Unicast/Multicast table(s) 430 may be one table or may be one or more data structures in a database or a memory. The memory cache 440 may be a software or hardware cache, a random access memory (RAM), a flash memory, a hard drive, or any other volatile or non-volatile storage device. In one embodiment each selected output control module includes a head pointer queue, e.g., FIFO,

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having the frame pointer 160, where the output control module is selected using a mask, e.g., mask 445, stored in memory cache 440. The output of the selected output control modules is then used to control, directly or indirectly (via a linked list), the shared memory 152 and second crossbar switch 154 (FIG. 2) to copy one or more memory strips of shared memory 152 to the output queues, e.g., FIFOs, at the output ports. Further details of this embodiment are set forth in co-pending U.S. Utility patent application Ser. No. 09/971,049, titled "Variable Length Switch Fabric," by having inventors Todd Khacherian et. al., filed Oct. 3, 2001 (~~Attorney Docket number 06979-0017~~).